DOCUMENT RESUME

ED 231 164 EC 152 659

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TITLE Impact of Instruction for Disabled Adults in Independent Living Skills.
PUB DATE Apr 83
NOTE 37p.; Paper presented at the Annual International Convention of the Council for Exceptional Children (61st, Detroit, MI, April 4-8, 1983).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adult Education; Adults; Community Services; Daily Living Skills; *Developmental Disabilities; Higher Education; Program Descriptions; *Program Effectiveness; Volunteers
IDENTIFIERS *College for Living

ABSTRACT

The College for Living Program in Denver, Colorado, focuses on independent living skills for developmentally disabled adults. The program is described in terms of its history (beginning in 1974) and its focus on education and community services provided by institutions of higher education. The program's three major goals and component objectives are listed, the organizational structure described, and a special project involving computer aided instruction reviewed. The bulk of the report emphasizes evaluation methodology and results based on changes in students' skill attainment, impact on teachers, and public service outcomes (including its effects on volunteer training). Data on enrollees are presented according to number and type of handicap. Findings are cited which show positive changes in self concept and improvement in the attitudes of the volunteer teachers toward handicapped students. (MC)

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ED231164

IMPACT OF INSTRUCTION FOR DISABLED ADULTS IN INDEPENDENT LIVING SKILLS

Presented at

CEC's 61st Annual International Convention
Detroit, Michigan
April 3-8, 1983

By

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ABSTRACT

The College for Living Program serves both educational and public service functions. The program is recognized nationally and internationally as a program of exceptional quality that was the first of its kind. The program has been extremely successful in generating interest nationally and internationally in the College for Living concept and there are now at least 30 similar programs at colleges and universities in 10 states.

The program has been successful in attracting students and non-students to become involved in the College for Living Program as teacher volunteers and in providing a valuable educational experience that would be difficult if not impossible to attain in any other setting.

The results of the annual evaluations show that the program has also been very effective in recruiting and in educating developmentally disabled adults. Changes in skill attainment for the developmentally disabled participants in the area of independent living skills have been demonstrated for the large majority of participants.

Two new evaluation instruments have been added to the evaluation methodology in the Fall Semester 1982. The results of the analysis of the data from the pre and post administration of the two new instruments shows: (1) improvement in self concept for most of the participating students; (2) improvement in the attitudes of the volunteer teachers towards the developmentally disabled.

I. OVERVIEW OF THE COLLEGE FOR LIVING PROGRAM

A. Meeting the Needs of a Changing Society

With the advent of P.L. 94-142 which advocates the education of handicapped children in the "least restrictive environment", Colorado accelerated its efforts to "deinstitutionalize" many of the mentally retarded residents of what was then the State Home and Training Schools. Community Boards were established to operate group homes for the retarded in local communities. Considerable effort has also been made to encourage a completely independent life style by those mentally retarded persons who are capable of independent living.

This enlightened approach to the mentally retarded has led to the need for education and assistance to the developmentally disabled in coping with an independent lifestyle. In addition, there is also a need to develop understanding and positive attitudes toward the developmentally disabled on the part of the citizens of Colorado since the developmentally disabled are now a part of the community and will now be present in increasing numbers in neighborhoods, workplaces, schools and recreational areas. The need for professionals, who are at least familiar with the problems faced by the developmentally disabled in becoming integrated into society, will also increase.

B. Program History

The College for Living Program began in September 1974 at Metropolitan State College (MSC) in Denver, Colorado with five college students voluntarily tutoring 16 developmentally disabled students. This unique program grew out of an idea from some concerned students and faculty at the college

to combine the available resources found at the college with community skills assistance to developmentally disabled adults.

Throughout the United States thousands of individual programs struggle on limited budgets to serve the needs of adults who are developmentally disabled.

Our country also has thousands of higher education institutions, most of which have already-paid-for classroom space empty and available for use during certain hours. There is also a population of degree seeking students who need hands-on experience to supplement their academic studies. Those concerned students and faculty thought: Why not combine these areas of service and need? Why not create a program for developmentally disabled adults and house the program on a campus where a variety of existing facilities and resources can be used at little or no cost? This concept was realized in 1974 with MSC students tutoring developmentally disabled adults from the Colorado State Home and Training School. The college students and developmentally disabled students met once a week on the MSC campus. The developmentally disabled adults were very instrumental in identifying some specific areas in which they wanted help, i.e., independent living skills, knowledge of assistance sources in the community, mobility in a large city like Denver, job training, and simply coping on a day-to-day basis with the demands of society outside an institution.

A survey of 240 social service agencies in the Denver area was conducted to determine how large the need was for a program like the College for Living. More than 2,000 individuals were identified as "falling through the cracks" of traditional programming and services. More than 30 agencies began calling to refer clients to the project. The student

founders discovered both the extent of need of the developmentally disabled in the metropolitan area, and the wholehearted support from experts in the field of developmentally disabilities and professionals and students in higher education for the College for Living concept. Department chairpersons and faculty at MSC cooperated in the granting of college credit to the students and offered consultation services in further demonstration of their support of the program. The student created College for Living was in full swing on a first year budget of only $600.00!

C. Benefits to College and Community

The College for Living Program has a dual focus. The Program provides a learning experience for MSC students in Psychology, Education, Human Services, Sociology, Industrial Arts and other areas. The College also provides an important community service by providing education/training in independent living skills for developmentally disabled adults.

The College for Living Program was the first of its kind when it began in 1974 and the program is recognized nationally and internationally (Canada, Australia and England) as an innovative continuing education program for developmentally disabled adults. It has been described in glowing terms in a textbook on mental retardation, a U.S. Office of Education publication "Service Programs That Work", and several national newsletters*. The Program has received national and state awards for

* -Focus on The Retarded Adult-Programs and Services, Eveline D. Schulman; C.V. Mosby Company, St. Louis 1980.
-MR78 Mental Retardation: The Leading Edge-Service Programs That Work, President's Committee on Mental Retardation; Superintendent of Documents, Washington, D.C. 20402.
-Educational Opportunities for Handicapped Students-1981 Idea Handbook for Colleges and Universities, S.G. Tickton, W.A. Kinder, A.S. Poley; Academy for Educational Development, Washington, D.C., 1981.
-Off The Cuff; Administrator, Madison, Wisconsin, 1983

contributions to educating the handicapped adult. The Program receives many requests from institutions of higher education and reciprocal agencies throughout the United States and Canada for program materials and is visited frequently by persons interested in starting similar programs.

Because of its uniqueness and recognition, the Program has excellent potential for developing innovative and creative thrusts which will support MSC's role as a vital creative urban institution of higher education. The Program provides exciting opportunities for MSC students to develop and practice skills in several academic disciplines and to learn more about handicapping conditions.

In addition, the Program provides an opportunity for professional development to faculty at MSC. Their involvement in reviewing and helping to develop curriculum materials, designing evaluation tools and advising staff and student volunteers provides a rich complement to their normal teaching activities.

Metropolitan State College is "a multi-purpose, urban-oriented institution with comprehensive programs in the arts and sciences, career, technical and professional fields".* In addition, "as an urban college, Metropolitan State participates in the surrounding community."*

The College for Living Program with its dual focus on providing educational experiences and on providing needed services to the developmentally disabled, provides an excellent example of an urban higher education institution that combines educational pursuits and service to the community in a manner that is beneficial to both endeavors.

*MSC 1982-1983 Bulletin, Page 5

The CFL course offerings are provided as a part of the Human Services curriculum. The CFL program provides a valuable field experience for future Human Services professionals by introducing them to a special population for which they are responsible for providing a meaningful and practical service. The CFL program also supports and strengthens the other Human Services' course offerings in mental retardation.

All MSC students are encouraged to participate in the CFL program. Students are actively recruited through presentations made to classes, advertisements, etc. Particular efforts are made to recruit students from academic areas that are directly relevant to CFL activities. These include: Psychology, Sociology, Education (especially Special Education), Human Services and Industrial Arts.

II. PROGRAM GOALS AND OBJECTIVES

The program goals and objectives of the CFL program are provided below.

Goal 1. To assist developmentally disabled adults in learning independent living skills

- Objective 1. To improve the employment skills of the developmentally disabled program participants.
- Objective 2. To improve the independent living skills of the developmentally disabled program participants.
- Objective 3. To further develop the creative abilities of the developmentally disabled participants.
- Objective 4. To improve the recreational skills of the developmentally disabled participants.

Goal 2. To offer a "hands-on" teaching experience to MSC students from a variety of academic disciplines

- Objective 1. To improve the understanding of MSC students of the developmentally disabled adult and of effective teaching strategies for the developmentally disabled.
- Objective 2. To foster the development of positive attitudes toward the developmentally disabled on the part of MSC students.
- Objective 3. To encourage the consideration of careers in the developmental disabilities area by MSC students.

Goal 3. To play a leadership role in the state and nation in increasing the independence of the developmentally disabled adult

- Objective 1. To continue to disseminate information to other colleges and universities in the state and nation (and foreign countries) concerning the College for Living concept.

Objective 2. To conduct research and evaluation into the effectiveness of methodologies for the education/training of the developmentally disabled adult.

Objective 3. To develop innovative approaches to the education/training of the developmentally disabled adult.

III. PROGRAM DESCRIPTION

A. Program Staff

The Metro College for Living program has grown from a student project to a department within the School of Community and Human Services at Metropolitan State College. The program is staffed by a director, two full-time coordinators, a secretary and part-time evening coordinator.

The Director is responsible for administration, publicity and liaison, funding, expansion of services and for the overall direction of the program.

The Coordinator of Curriculum and Training plans, manages and implements the instructional component of the College for Living concept. This Coordinator coordinates the for-credit courses and develops curricula. This Coordinator is also responsible for the management of classes, volunteer training, and supervision of student interns to insure overall instructional quality.

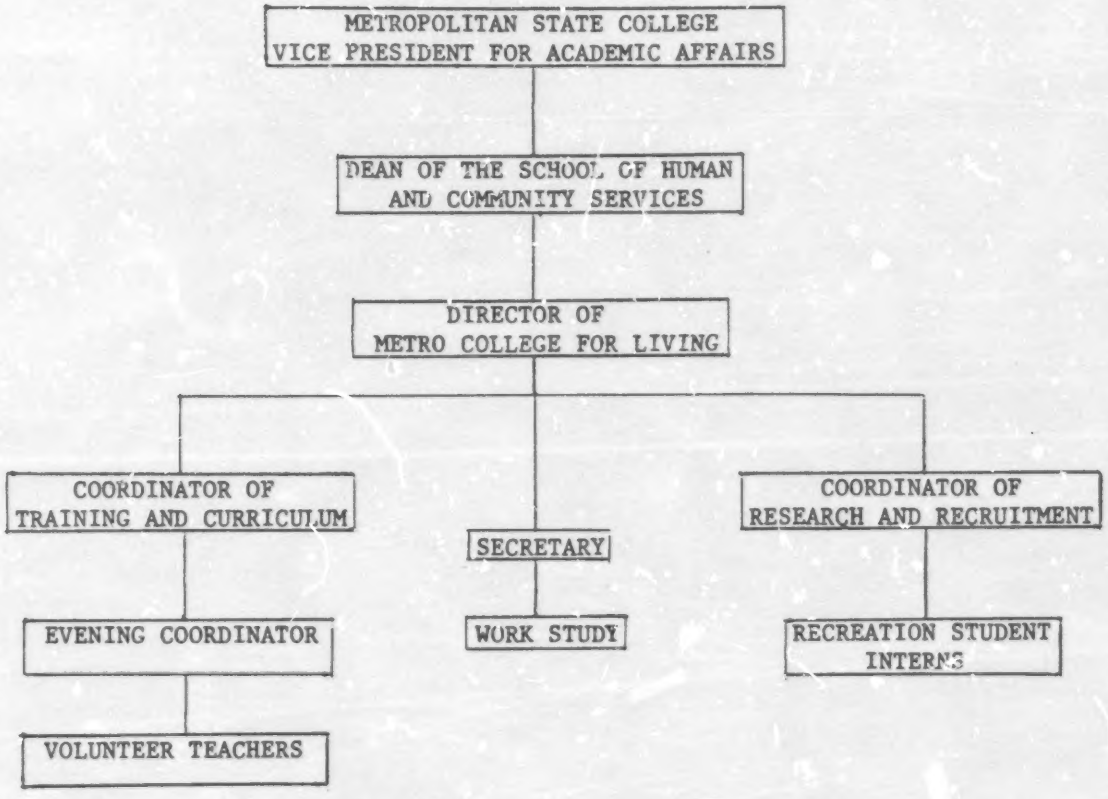
The Coordinator of Research and Recruitment provides technical assistance for new and existing programs, compiles the program evaluation semester, oversees the summer recreation program and recruits volunteer teachers and students for the program.

The Secretary is the office manager, and she disseminates program information, maintains the bookkeeping system and handles the correspondence.

The part-time position is that of Evening Coordinator. This person is the liaison between volunteer teachers and the regular staff. This job requires being available evenings to aid teachers with problems during class time and with other special needs as they arise.

An Organizational Chart for the College for Living Program is presented on the following page.

ORGANIZATIONAL CHART FOR
COLLEGE FOR LIVING PROGRAM



B. Volunteer Teaching

In addition to the full-time staff and the Evening Coordinator MSC students are recruited twice a year to do the actual teaching. They team-teach independent living skills classes two hours, one night a week for ten weeks. Teachers are encouraged to take the workshop entitled "Understanding the World of the Disabled Adult" for 2 hours credit before the teaching experience begins. This workshop includes presentations from adults with a variety of handicapping conditions who share their experiences with the students. One day, of the week long workshop, is used to visit agencies that provide services to handicapped people. Following the workshop, all prospective CFL teachers must attend a training session one night a week for three weeks. The first week of teacher training focuses on the philosophy of CFL, teaching materials and the goals and objectives of the program. During the second week, students prepare a course syllabus and are assigned teaching partners. During the third week of the training session, students learn teaching strategies and safety measures in order to ensure the smooth functioning of their classes. The staff of College for Living is available Monday through Friday during regular business hours to answer questions, give support or generally help the student teacher be prepared to work with the developmentally disabled students in the classroom. MSC students earn 4 hours credit by taking "Human Services for Handicapped Persons". The course requirements include participation in the three week teacher training session and the actual teaching of the classes for the developmentally disabled.

C. Classes in Independent Living Skills

The developmentally disabled students make suggestions near the end of each semester concerning the subject area of classes they would like to attend in future semesters. These suggestions coupled with the areas in which the student teachers are interested or feel expert, generate a variety of classes offered each semester. Examples of some of the classes offered are: Money Management, Shopping on a Budget, Travelling, Self Advocacy, Legal Rights, Sexuality, Grooming, Cooking and Nutrition, Leisure Time, Arc and Swimming. Since the class offerings depend largely on the expertise of the teachers and the desires of the students, every class may not be offered each semester.

Class schedules are mailed to every agency and individual client on the College for Living mailing list. At the same time, the Recruitment Coordinator begins to make appointments with the agencies and developmentally disabled students to get them registered for class. Each developmentally disabled student is asked to list first and second choices of classes they wish to take. The developmentally disabled student is accepted into a class on a "first come-first served" basis until the class is filled. In the event that a class is filled, the student automatically is accepted into his/her second choice of class. As with any other college registration procedure, the developmentally disabled student may register late for classes.

D. Computer-Aided-Instruction (CAI) Project

The Computer-Aided-Instruction project was started recently (Spring '83) with the purchase of an Apple II Plus Microcomputer and an Atari 400 Microcomputer. The cost of this hardware was only about $2,000! Two Timex Sinclair Microcomputers and three small black and white portable T.V. sets have been borrowed and there are now four operating computers being utilized in the CAI project.

Educational software is available for all of the microcomputers in use, with Apple the clear leader in the number of programs available for educational applications. Atari has a fairly extensive inventory of educational programs on cassette tapes that have the added advantage of sound (recorded on the cassette tape with the program and played through the T.V. set). A voice synthesizer is now available for the Timex Sinclair and the Apple can be made to "talk" through the use of a device that will turn on and off a tape recorder on signal from the computer. Sound capability is important since some of the developmentally disabled students are not able to read.

There are several excellent programs available for teaching basic skills (reading and math) and for a variety of subject areas. However, there are few if any programs that are designed to deal with independent living skills (e.g., sexuality, nutrition) at the level appropriate for the mentally retarded. Programs are, therefore, being designed, as a part of the project for the Apple and the Timex Sinclair. Examples are: Money Management, First Aid, About Myself and Nutrition.

The computer is an excellent tool in the education of the developmentally disabled. The students are fascinated by the "intelligent"

machine and are strongly motivated to work on what otherwise would be a boring task. We have trouble getting them away from the machines when it is time to quit! The computer is also infinitely patient and extremely consistent in delivering positive reinforcement (Great, you got it on the first try!!!). Contrary to what some might expect, Computer-Aided-Instruction encourages interaction between student and teacher and is a pleasurable experience for both. The computer revolution will be a great asset in the education of the developmentally disabled.

E. CFL Program Materials

The College for Living has developed curriculum guides and program materials including computer software for the Apple II. (See the Appendix for a listing of available materials).

IV. RESEARCH OUTCOMES

A. Evaluation Methodology

The staff and students of CFL intuitively "know" that the program is very successful, but progress and efforts must be demonstrated to be effective to other persons who are not as familiar with the successes of the program. The program is evaluated each semester to demonstrate the program impacts and accomplishments in an objective manner. Student teachers receive an opinion questionnaire in their packet of teaching materials at the beginning of the semester. This questionnaire is filled out by the student teacher and constitutes a pre-test of their attitudes towards handicapped people. The post-test is administered at the end of the semester and the scores of both tests are compared to note changes in attitude during the ten week teaching experience. Students also are asked to complete a Survey of Volunteer Teachers form which helps the the Coordinator determine the impact of CFL on their lives. In addition to teaching classes for ten weeks, the student teachers administer pre and post tests to the developmentally disabled students. These tests have been designed to measure levels of skill attainment, self concept and adaptation to an independent living lifestyle. As with the student teacher, student scores are compared to note any improvement made during the semester. During the ninth week of the semester a sample of the developmentally disabled students are asked to express their opinions (both positive and negative) concerning the class content and the teachers. Their responses are analyzed with regards to the perceived strengths and weaknesses of the program.

After all the data has been collected and tabulated, the results are described and commented upon in the form of an Evaluation Report. The Evaluation Report is disseminated to MSC administrators and to other CFL programs throughout the United States. The results of the program evaluation and recommendations from all other sources are taken seriously by the staff and implemented whenever possible.

B. Review of Historical Data (Past 3 years)

1. Functioning Level (Skill Attainment)

Table I below shows the changes in functioning level of the developmentally disabled students enrolled in CFL classes for the previous three year period. The students' functioning level with respect to the specific skills to be taught in the classes are assessed in the first week and again in the last week of classes. Functioning level is assessed on a five point scale and the change scores reported below are the average differences between the pre and post scores.

TABLE I

Changes in Functioning Level (Pre to Post)

Previous Three Years (1979-80, 1980-81, 1981-82)

Program Year	Average Change in Functioning Level	Percent of Students Improving
1979-80	1.33	87.91%
1980-81	2.11	94.87%
1981-82	1.15	95.26%
Average (all 3 years)	1.49	94.46%

Table I on the previous page shows that the CFL program has been effective in meeting its instructional objectives for the developmentally disabled students enrolled in the CFL classes. The average change in functioning level over the three year period is 1.49 and the percentage of students evidencing positive change in functioning level is 94.46 percent. The average changes in functioning level in each of the previous three years exceeds one level of functioning and the percentage of students improving is above 85% in all three years. The objective data is thus, fully supportive of our subjective perceptions that the CFL program is effective in improving the independent living skills of the developmentally disabled participants.

2. Impact on Teachers

Table II below shows the results of a survey conducted in the 1979-80 program year concerning the career related impacts of the CFL teaching experience on the volunteer teachers.

TABLE II

Survey Results

Career Related Impacts of Teaching Experience on Volunteer Teachers

	Percent
1. Helped in obtaining employment in developmental disabilities area	18%
2. Developed new interest in the field of mental retardation as a career	18%
3. Broadened understanding and abilities in working with the developmentally disabled	46%
4. Improved communications with co-workers	18%
Total	100%

The responses to the survey were in four major categories as indicated in Table II on the previous page. Forty-six percent of the respondents were employed in fields which involved working with the developmentally disabled and they were of the opinion that the CFL teaching experience improved their understanding and abilities in working with the developmentally disabled. The remaining 54% of the respondents were divided equally (18% each) with respect to their opinions concerning the impact of the CFL teaching experience on their careers and career plans: 18% said that the teaching experience contributed to their success in obtaining employment in the developmental disabilities field; 18% indicated that they had developed a new interest in the field of mental retardation as a career; and 18% said that the experience had resulted in improved communications with their co-workers. There were no negative comments. In summary, the survey provides strong support for the conclusion that the CFL teaching experience has a positive impact on the participants in career related areas.

3. Public Service Outcomes

The CFL program has provided services to the public in three major areas:

(1) The program has provided a much needed public service by providing independent living skills education to the developmentally disabled;

(2) The program has contributed to the education of non-student volunteers and to the changing of attitudes towards the developmentally disabled;

(3) The program has stimulated the development of similar programs throughout the United States.

Table III on following page shows the number of requests received for program materials over the previous three year period.

TABLE III

Requests for Program Materials Received

Three Year Period (1979-80, 1980-81, 1981-82)

Program Year	Number of Requests
1979-80	248
1980-81	220
1981-82	159
Total Three Year Period	627

Table III shows that there has been 627 requests for program materials in the past three years. Requests have been received from all over the United States and from Canada, England, Australia and Bermuda. The CFL program has also been visited from time to time by professionals interested in replicating the program in their area (The Director of the Manitoba Association for Retarded Citizens visited the Metro State CFL this fall in preparation for the development of a CFL program at the University of Winnipeg in Manitoba, Canada).

Table IV on the following page shows the growth in the number of CFL programs in the United States since the first program was started at Metropolitan State College in 1974. Data is provided for the past three years and, in addition, data is provided for 1974 and 1978 since this information was readily available.

TABLE IV

Number of College for Living Programs in U.S.

Program Year	Number of CFL Programs	Number of States	Number in Colorado
1974(Metro State Only)	1	1	1
1978	25	7	14
1979-80	26	8	14
1980-81	27	8	14
1981-82	30	10	14

Table IV shows that the number of programs in the U.S. has grown to 30 Programs in 10 states with 14 of these programs in the State of Colorado as of the Spring of 1982.

4. Participants

Table V below shows the number of volunteer teachers that have participated in the program in the past three years. The table also shows the number of volunteer teachers who were Metro State students during this three year period.

TABLE V

Number of Volunteer Teachers Participating in the CFL Program

Three Year Period (1979-80, 1980-81, 1981-82)

Program Year	Metro State Students	Community Volunteers	Total Volunteer Teachers
1979-80	24	4	28
1980-81	30	5	35
1981-82	29	7	36
Total Three Year Period	83	16	99

Table V shows that a total of 99 volunteer teachers have participated in the program. Of these 83 were Metro students (83.84%) and 16 were volunteers from the community. The number of volunteers have increased from 28 in 1979-80 to 36 in 1981-82...a 28.57% increase.

Table VI shows the number of developmentally disabled students who participated in the CFL program in the previous three year period.

TABLE VI

Number of Developmentally Disabled Students Participating in the CFL Program

Three Year Period (1979-80, 1980-81, 1981-82)

Program Year	Number of Students
1979-80	235
1980-81	228
1981-82	261

Table VI shows that the number of developmentally disabled students participating in the program has vacillated somewhat (the number of students decreased slightly to 228 in 1980-81 from 235 in 1979-81). However, the program experienced a sharp rise in the number of students in 1981-82 to 261 students.

Table VII shows the number of developmentally disabled students participating in the program and the number and percent receiving certificates of completion in the previous three years.

TABLE VII

Number and Percent of Developmentally Disabled Students Receiving Certificates of Completion

Program Year	Number Participating	Number Receiving Certificates of Completion	Percent Receiving Certificates of Completion
1979-80	235	186	79.15%
1980-81	228	195	85.53%
1981-82	261	211	80.84%
Total	724	592	81.77%(overall)

Table VII shows that of the total of 724 participants in three year period, 592 (81.77%) received certificates of completion. The data indicates that the program was successful in maintaining the interest of the developmentally disabled students in the independent living skills classes and in encouraging satisfactory completion of the class by the large majority of the students.

Table VIII on following page shows the number and percentage of enrollees by type of handicap for the 1980-81 and 1981-82 program years. Data for the 1979-80 program year is not included because the data included duplicated counts (persons with more than one handicap) and is not comparable to the data for 1980-81 and 1981-82. The data is arranged in the order of frequency of occurrence of the handicapping condition.

TABLE VIII

Number and Percent of Enrollees by Type of Handicap

(1980-81 and 1981-82 only)

	1980-81		1981-82		Total	
Type of Handicap	No.	%	No.	%	No.	%
Mental Retardation	120	61.54	128	60.66	248	61.08
Epilepsy	34	17.44	34	16.12	68	16.75
Cerebral Palsy	16	8.21	18	8.53	34	8.37
Wheelchair	15	7.69	16	7.58	31	7.64
Multi-Handicapped	8	4.10	11	5.21	19	4.68
Blind/Vision Impaired	1	0.51	3	1.42	4	0.99
Deaf/Hearing Impaired	1	0.51	1	0.48	2	0.49
TOTAL	195	100.00	211	100.00	406	100.00

The data for 1980-81 and 1981-82 are remarkably similar with respect to the relative frequency of the various handicapping conditions. Table VIII shows that the majority of students who participated in the CFL program were mentally retarded (61.08%). The next most frequently occurring handicap is epilepsy, followed by cerebral palsy, wheelchair, multi-handicapped, blind/vision impaired and deaf/hearing impaired with both the blind/vision impaired and deaf/hearing impaired having a very low frequency.

The average independent living skills class size for the previous three year period is presented below.

TABLE IX

Average Class Size

Program Year	Developmentally Disabled Student
1979-80	12.37
1980-81	16.29
1981-82	18.64
Average (3 Years)	15.40

The CFL program has been remarkably successful in recruiting MSC students to serve as volunteer teachers. Teacher volunteers from the community have also participated in the program. The developmentally disabled student has shown a keen interest in the classes provided (approximately 100 developmentally disabled students are enrolled in CFL classes each semester).

The recruitment of developmentally disabled students is not a concern despite the fact that other local organizations providing services to the handicapped have started, or are starting, "College for Living" programs. For example, we have received a request for assistance from the Jefferson County Association for Retarded Citizens in developing an independent living skills program to be called College for Living. However, the demand for the services provided by the College for Living far exceeds the extent of services that the program is able to provide. Class size is limited to a maximum of 15 (for obvious reasons) and two volunteer teachers

are required to teach each class.

Since participation in the CFL program is entirely voluntary, students must be recruited in order for the program to be successful. So far our recruitment efforts have been successful although considerable effort is required in order to promote the program. Of those that express interest in the CFL program (after a class presentation, for example), only approximately 1 in 10 actually follow through to the point of actually teaching a class. We are confident, however, that our initiatives in developing interdisciplinary and interdepartment participation, and new projects such as the Computer-Aided-Instruction project will serve to improve the visibility of the program and, thus, facilitate recruitment.

C. Fall Semester 1982 Outcomes

1. Revisions in Evaluation Design

The CFL program provides an excellent opportunity for research with direct applications to the education of the handicapped. The CFL program has been evaluated annually from its inception in 1974. The evaluation design has been revised this year. The new evaluation design calls for the administration of a series of pre and post instruments designed to measure the impact of the program on the volunteer teachers and the developmentally disabled students. Questions of interest in the evaluation include:

For the Developmentally Disabled Student

(a) What improvement in skills have been observed?

(b) Has the student improved in self concept as a result of participation in the program?

(c) Has the student improved in adaptation to independent living as evidenced by the adoption of a more independent lifestyle?

For the Volunteer Teacher

(a) Has the volunteer evidenced a more positive attitude towards the handicapped as a result of participation in the program?

(b) Has the volunteer achieved the hoped for development of skills in working with the developmentally disabled?

(c) What impact has participation in the program had on the career plans of the volunteer teacher?

There will be a concentrated research effort with respect to the CAI project. Computer-Aided-Instruction is a relatively new field and while there has been a lot of activity in the development of software for the Elementary and Secondary levels, there is little activity in the developmental disabilities area and none that we know of in the area of independent living skills for adults. We plan on developing software to meet our particular needs and will pair this development with research into the effectiveness of various approaches, curriculum, etc.

The evaluation instruments for the CFL program were revised in the summer of 1982 and the new instrumentation was fielded in the fall semester of 1982. The major innovations in the revised instrumentation were twofold:

(1) New instrumentation was designed to measure the self concept of the developmentally disabled students;

(2) New instrumentation was designed to measure the attitudes of the volunteer teachers towards the developmentally disabled.

The rationale for the addition of these areas to the evaluation instrumentation is the recognition that one of the significant

impacts that the program had on the participants was in the effective area, i.e., in the changes in how the students felt about themselves and in how the volunteer teachers perceived the developmentally disabled and also serves to improve the attitudes of the volunteer teachers towards the handicapped.

Although the data collected for the Fall semester is preliminary in nature (inasmuch as the pre and post tests were of necessity conducted only 10 to 8 weeks apart and the usual problems with questionnaire design have not yet been corrected), the results from the Self Concept and Attitude testing is of sufficient interest to warrant inclusion herein.

2. Self Concept Outcomes

The Self Concept scale was administered pre and post, in the first and last week of classes for the developmentally disabled students (8 weeks apart). The volunteer teachers were asked to rate each student on a five point scale ("never" to "always") with respect to several items relevant to self concept, e.g., "To what extent does this student show a sense of self esteem, self respect, and appreciation of his/her worthiness?"

The results from the pre/post administration of the Self Concept instrument is presented in Table X below.

TABLE X

Change in Self Concept(Pre/Post)

A. Average Gain by Class/Subject Area

Class/Subject	Average Gain Pre to Post (5 Point Scale)
Nutrition	1.11
Leisure Time	0.77
Sign Language	0.66
Yoga	0.66
First Aid	0.52
Understanding Oneself	0.44
Math	0.12

B. Average Gain for All Students was 0.64

C. Number and Percent of Students Evidencing Change in Self Concept

	Number of Students	Percent
Positive Change	59	88.06
No Change	5	7.46
Negative Change	3	4.48
Totals	67	100.00

Table X shows that the students in all of the 7 classes included in the study showed a positive change in self concept on the average. The average gain from Pre to Post administration of the Self Concept instrument was 0.64 on a five point scale. In addition, 88.06% of the students showed positive change in self concept as measured by the Self Concept scale and only 4.48% showed negative change, with 7.46% showing no change in self concept.

The results shown above strongly support the expectation that the CFL program enhances the self concept of the participating students.

3. Attitude Change Outcomes

A 20 item attitude questionnaire was designed for pre and post administration to the volunteer teachers. The teachers were asked to respond to each item on a 5 point scale ("strongly agree" to "strongly disagree"). The attitude questionnaire was scored based on the degree of agreement/disagreement with the items and, of course, whether they reflected positive or negative attitudes towards the handicapped. For example, if a volunteer teacher indicated agreement with the item which read: "Most handicapped students are honest", he or she would be rated high on that item. However, if the teacher agreed with the item that read: "The vast majority of difficulty concerning handicapped females are their loose morals", he or she would be rated low on that item.

An item analysis was performed on the data generated. The item analysis revealed that there were several questions which were too obtuse to provide reliable results, e.g. "When handicapped adults (or children) experience too much frustration, their behavior ceases to be integrated, purposeful and rational. Blindly they act out their rage or discouragement or withdrawal. The threshold of what is 'too much' varies; it is lowered by previous failures". Eight of the 20 questions were eliminated to yield a 12 item scale.

Table XI below shows the results of the pre/post administration of the Attitude Scale.

TABLE XI

Attitude Change Results

A. Score

	Average Score
Pre-test	80.15
Post-test	84.39
Difference	4.24

B. Percent of respondents showing positive, negative or no change Pre to Post

Change Pre to Post	Percent
Positive change	63.64
No change	9.09
Negative change	27.27
Total	100.00

C. The average score improvement for the teachers that showed a positive change in attitude was 7.85.

D. The average score reduction for the teachers that showed a negative change in attitude was 2.78.

Table X(A) shows that the difference between the average scores on the pre and post administration of the Attitude Scale was 4.24. In other words, the teachers, as a group, showed a positive improvement in their attitudes towards the handicapped despite the short (10 week) period between the pre and post administration of the Attitude Scale. Table XI(B) shows that almost two thirds (63.64%) of the teachers evidenced positive changes in attitude, with less than one-third (27.27%) showing a negative change in attitude. Moreover, of the teachers showing a positive change in attitude the average improvement in the score (7.85) was much larger than the average score decrease (2.78) shown by those teachers whose score decreased.

The above indicates that the cause of the score reduction in the negative group may be attributable to the imprecision of the measurement rather than to a true deteriation in attitudes toward the handicapped by these teachers.

V. CONCLUSIONS

The historical review of evaluation data shows positive changes in the acquisition of independent living skills by 94.46% of the participating developmentally disabled adults over the three year period covered in the review. The review also revealed that the program had a positive impact on the career related plans of the volunteer teachers (mostly Metro State students). There has been considerable growth in interest in the College for Living concept and there are now approximately 30 similar programs in the United States.

Recent data shows that the program has a positive impact on the developmentally disabled students with respect to improving self concept. The research data also supports the contention that the program serves to improve the attitudes of the volunteer teachers, participating in the program, toward the developmentally disabled.

The College for Living concept is an innovative approach to the encouragement of independence for the developmentally disabled adult and in providing a relevant educational experience for college students that is worthy of emulation.

APPENDIX

College for Living Program Materials Available

COMMUNITY LIVING SKILLS GUIDES

ART: patterns, attention, make choices, general art

COOKING/FOOD PREPARATION: safety, food groups, basic meals

ADDITIONAL ACTIVITIES FOR NUTRITION, COOKING, HOMEMAKING, AND FAMILY LIVING: table manners, small and large groups, surroundings, clean-up, safety

GETTING TO KNOW ME: A GUIDELINE: body awareness, sensory perception, physical fitness, emotions, creativity

HOMEMAKING AND FAMILY LIVING: overview of problem-solving

JOB ORIENTATION AND TRAINING PROGRAM: Self-inventory, personal hygiene, applying for a job

LEISURE TIME FOR ADULTS: identification and definition of leisure time

LOOKING GOOD: HYGIENE: teeth brushing, hair care, bathing, personal appearance

GENERAL EXPERIENCE COURSE FOR THE LOWER FUNCTIONING ADULT: colors, shapes, space awareness, social interaction, Yes-No Skills

MONEY MANAGEMENT I: making change, recognition of coins

MONEY MANAGEMENT II: checkbooks, budgeting

NUTRITION I: basic food groups, balanced meals

READING I: recognition of written symbols A-Z, 1-10, recognition of sounds connected with symbols, sight words, phonics, simple sentences

READING II: literal meanings, finding the main idea, listening skills

SEXUALITY: male-female role, body I.C., hygiene, birth control, social skills

SPANISH I: nouns, numbers, greetings, simple conversations

RECREATION FOR THE ADULT WHO IS LOW FUNCTIONING: simple activities that involve gross motor skills or yes/no answers

TRAVELING II: use of public transportation, map reading

WARDROBE I: seasons, occasions, colors, patterns

WARDROBE II: fit, price, coordination, quality, selection and buying clothing

WORKING CURRICULA: ideas, concepts and activities for twelve life-centered areas

METRO'S CFL EVALUATION: Evaluation of current year

MANUAL COLLEGE FOR LIVING: Describes the project components and some hints about how to start a project.

COMPUTER SOFTWARE: The following instructional programs are available on diskette for the Apple II:. Nutrition, Money Management, First Aid, About Myself Parts I and II, Math Parts I and II, What Do I Use and How Much.